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Amendments to Claims

This listing of claims replaces all previous claims.

Claims 1-40 (Canceled)

41. (Currently Amended) A synthetic multimeric biopolymer comprising a plurality of monomeric units chosen from proteins, polypeptides, and combinations thereof;

wherein a plurality of said monomeric units in said biopolymer comprise a binding region for an analyte chosen from a sugar, a protein, a peptide, a nucleic acid, a hormone, a vitamin, a co-factor, an anion, and a cation,

wherein the monomeric units that comprise a binding region for an analyte are covalently linked to each other;

wherein each of the covalently linked monomeric units that comprise a binding region for an analyte generates a signal when the analyte is bound thereto; and

wherein the signal generated by the covalently linked monomeric units that comprise a binding region for an analyte when the analyte is bound thereto is greater than the signal generated by the monomeric units that comprise a binding region for an analyte not covalently linked to each other when the analyte is bound thereto; and

wherein the biopolymer comprises a calmodulin dimer.

Claims 42-59 (Canceled)

- 60. (Previously Presented) The multimeric biopolymer according to claim 41, wherein the biopolymer comprises an enzyme that catalyzes a biochemical reaction, which results in the formation of protons or hydroxide ions when said enzyme binds to the analyte.
- 61. (Previously Presented) The multimeric biopolymer according to claim 41, wherein the biopolymer comprises (a) a protein or polypeptide that changes its three-dimensional conformation in response to binding of a proton or a hydroxide to the binding region, and

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- (b) a protein or polypeptide that catalyzes a biochemical reaction which results in the formation of protons or hydroxide ions when said protein or said polypeptide binds to said analyte.
- 62. (Previously Presented) The multimeric biopolymer according to claim 41, wherein the biopolymer comprises from about 2 to about 10 monomeric units.